



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,130	12/18/2001	Takashi Mochizuki	Q67762	7342

23373 7590 07/29/2005

SUGHRUE MION, PLLC  
2100 PENNSYLVANIA AVENUE, N.W.  
SUITE 800  
WASHINGTON, DC 20037

EXAMINER

DEAN, RAYMOND S

ART UNIT PAPER NUMBER

2684

DATE MAILED: 07/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/020,130

Applicant(s)

MOCHIZUKI, TAKASHI

Examiner

Raymond S. Dean

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 - 10 and 18 - 24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 10 and 18 - 24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1203</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dabak (US 6,862,275) in view of Andersson et al. (US 6,334,047).

Regarding Claim 1, Dabak teaches a transmission power control method for controlling the transmission power of downlink signals from base stations to a mobile terminal in a mobile communication system, comprising the steps of: selecting, at the mobile terminal, a first base station, said first base station transmitting user data in a downlink signal with a preferred reception quality (Column 5 lines 50 – 67, Column 6 lines 1 – 11); determining, at the mobile terminal, transmission power of downlink signals from other base stations not selected by said mobile terminal, said other base stations transmitting user data in said downlink signals to the mobile terminal after the first base station is selected (Column 6 lines 2 – 5, lines 64 – 67, Column 7 lines 1 – 4, the base stations (504,506) are the base stations that are not selected, said base stations will resume transmitting data symbols in the subsequent data frames, which are the frames after the base station (502) is selected); sending information, from the

Art Unit: 2684

mobile terminal to the base station, to modify the transmission power of the downlink signals of the base station (Column 5 lines 32 – 49).

Dabak does not teach sending information, from the mobile terminal to the other base stations, to modify the transmission power of the downlink signals of the base stations.

Andersson teaches sending information, from the mobile terminal to the other base stations, to modify the transmission power of the downlink signals of the base stations (Column 8 lines 38 – 55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Dabak with the fast power control loop of Andersson for the purpose of compensating for rapidly changing transmission conditions as taught by Andersson.

Regarding Claim 18, Dabak teaches a mobile terminal that controls transmission power of downlink signals from base stations in a mobile communication system, comprising: base station selection means for selecting a first base station that is transmitting user data in a downlink signal with a preferred reception quality (Column 5 lines 50 – 67, Column 6 lines 1 – 11), downlink signal weight decision means for determining transmission power of downlink signals from other base stations not selected by said mobile terminal, said other base stations transmitting user data in said downlink signals to the mobile terminal after the first base station is selected (Column 6 lines 2 – 5, lines 64 – 67, Column 7 lines 1 – 4, the base stations (504,506) are the base stations that are not selected, said base stations will resume transmitting data symbols

in the subsequent data frames, which are the frames after the base station (502) is selected);

Dabak does not teach a downlink TPC command decision means for using the downlink signals from said other base stations to decide whether transmission power of said other base stations is excessive or insufficient, and to instruct an increase or decrease of said transmission power.

Andersson teaches a downlink TPC command decision means for using the downlink signals from said other base stations to decide whether transmission power of said other base stations is excessive or insufficient, and to instruct an increase or decrease of said transmission power (Column 8 lines 38 – 55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Dabak with the fast power control loop of Andersson for the purpose of compensating for rapidly changing transmission conditions as taught by Andersson.

3. Claims 2 – 5 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dabak (US 6,862,275) in view of Andersson et al. (US 6,334,047) as applied to Claims 1, 18 above, and further in view of Mohebbi (US 6,603,971).

Regarding Claim 2, Dabak in view of Andersson teaches all of the claimed limitations recited in Claim 1. Dabak in view of Andersson does not teach estimating uplink reception quality of said other base stations.

Mohebbi teaches estimating uplink reception quality of base stations (Column 9 lines 12 – 15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the estimation method taught by Mohebbi in the system of Dabak in view of Andersson for the purpose of reducing the backhaul load in the fixed network as taught by Mohebbi.

Regarding Claim 3, Dabak in view of Andersson and in further view of Mohebbi teaches all of the claimed limitations recited in Claim 2. Mohebbi further teaches wherein signal weights are determined for the downlink signals from said other base stations based on the uplink reception quality (Column 6 lines 63 – 67, Column 7 lines 1 – 2, Column 9 lines 12 – 15, the base station that experiences the best uplink reception quality can be the highest ranked base station, the ranking is the weighting).

Regarding Claim 4, Dabak in view of Andersson and in further view of Mohebbi teaches all of the claimed limitations recited in Claim 2. Dabak further teaches a base station that is transmitting user data to the mobile terminal after the first base station is selected (Column 6 lines 2 – 5, lines 64 – 67, Column 7 lines 1 – 4, the base stations (504,506) are the base stations that are not selected, said base stations will resume transmitting data symbols in the subsequent data frames, which are the frames after the base station (502) is selected). Andersson further teaches calculating a correlation between an increase or decrease in transmission power instructed by a transmission power control, and an increase or decrease in transmission power of a downlink signal received from a base station (Column 8 lines 38 – 49, there is a correlation between the

Art Unit: 2684

transmission power control and the transmission power of the downlink signal because the transmit power control controls the transmission power of the downlink).

Regarding Claims 5, 23, Dabak in view of Andersson teaches all of the claimed limitations recited in Claims 1, 18. Andersson further teaches a signal obtained by combining downlink signals from said other base stations is used to determine whether the transmission power of the other base stations is excessive or insufficient (Column 8 lines 38 – 49).

Dabak in view of Andersson does not teach weighted downlink signals.

Mohebbi teaches weighted downlink signals (Column 6 lines 63 – 67, Column 7 lines 1 – 2, the ranking is the weighting).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the weighting method taught by Mohebbi in the system of Dabak in view of Andersson for the purpose of reducing the backhaul load in the fixed network as taught by Mohebbi.

4. Claims 6, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dabak (US 6,862,275) in view of Legg et al. (US 6,414,947).

Regarding Claim 6, Dabak teaches a receiving method for demodulating user data in a downlink signal from base stations to a mobile terminal in a mobile communications system, comprising the steps of: selecting, at the mobile terminal, a first base station, said first base station transmitting user data in a downlink signal having a preferred reception quality (Column 5 lines 50 – 67, Column 6 lines 1 – 11),

other base stations transmitting user data after the first base station is selected (Column 6 lines 2 – 5, lines 64 – 67, Column 7 lines 1 – 4, the base stations (504,506) are the base stations that are not selected, said base stations will resume transmitting data symbols in the subsequent data frames, which are the frames after the base station (502) is selected).

Dabak does not teach using the downlink signals, from other base stations not selected by said mobile terminal to demodulate, at the mobile terminal, user data from said first base station.

Legg teaches using the downlink signals, from other base stations not selected by said mobile terminal to demodulate, at the mobile terminal, user data from a first base station (Column 2 lines 25 – 29, Column 5 lines 16 – 18, during soft handoff there will be a base station that is selected thus leaving base stations that are not selected).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the combining method taught by Legg in the system of Dabak for the purpose of providing an efficient means of demodulating the signals received from the base stations in the active set during soft handoff as taught by Legg.

Regarding Claim 19, Dabak teaches a mobile terminal for receiving user data in the downlink signal from base stations in a mobile communication system, comprising: base station selecting means for selecting, a first base station that is transmitting user data in a downlink signal with a preferred downlink reception quality (Column 5 lines 50 – 67, Column 6 lines 1 – 11), downlink signal weight decision means for determining transmission power of downlink signals from other base stations not selected by said



mobile terminal, said other base stations transmitting user data in said downlink signals to the mobile terminal after the first base station is selected (Column 6 lines 2 – 5, lines 64 – 67, Column 7 lines 1 – 4, the base stations (504,506) are the base stations that are not selected, said base stations will resume transmitting data symbols in the subsequent data frames, which are the frames after the base station (502) is selected);

Dabak does not teach data demodulating means for using downlink signals from said other base stations to demodulate user data from said first base station.

Legg teaches data demodulating means for using downlink signals from said other base stations to demodulate user data from said first base station (Column 2 lines 25 – 29, Column 5 lines 16 – 18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the combining method taught by Legg in the system of Dabak for the purpose of providing an efficient means of demodulating the signals received from the base stations in the active set during soft handoff as taught by Legg.

5. Claims 7 – 10, 20 – 22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dabak (US 6,862,275) in view of Legg et al. (US 6,414,947) as applied to Claims 6, 19 above, and further in view of Mohebbi (US 6,603,971).

Regarding Claims 7, 20, Dabak in view of Legg teaches all of the claimed limitations recited in Claims 6, 19. Dabak in view of Legg does not teach determining estimated uplink reception quality of said other base stations.

Mohebbi teaches determining estimated uplink reception quality of base stations (Column 9 lines 12 – 15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the estimation method taught by Mohebbi in the system of Dabak in view of Andersson for the purpose of reducing the backhaul load in the fixed network as taught by Mohebbi.

Regarding Claims 8, 21, Dabak in view of Legg and in further view of Mohebbi teaches all of the claimed limitations recited in Claims 7, 20. Mohebbi further teaches wherein signal weights are determined for the downlink signals from said other base stations based on the uplink reception quality (Column 6 lines 63 – 67, Column 7 lines 1 – 2, Column 9 lines 12 – 15, the base station that experiences the best uplink reception quality can be the highest ranked base station, the ranking is the weighting).

Regarding Claims 9, 22, Dabak in view of Legg and in further view of Mohebbi teaches all of the claimed limitations recited in Claims 7, 20. Dabak further teaches calculating a correlation between an increase or decrease in transmission power instructed by a transmission power control, and an increase or decrease in transmission power of a downlink signal received from a base station that is transmitting user data to the mobile terminal after the first base station is selected (Column 5 lines 32 – 49, Column 6 lines 2 – 5, lines 64 – 67, Column 7 lines 1 – 4, the base stations (504,506) are the base stations that are not selected, said base stations will resume transmitting data symbols in the subsequent data frames, which are the frames after the base station (502) is selected, there is a correlation between the transmission power control

and the transmission power of the downlink signal because the transmission power control controls the transmission power of the downlink).

Regarding Claims 10, 24, Dabak in view of Legg teaches all of the claimed limitations recited in Claims 6, 19. Legg further teaches wherein a signal obtained by combining downlink signals from the other base stations is used for demodulating the user data from said first base station (Column 2 lines 25 – 29, Column 5 lines 16 – 18).

Dabak in view of Legg does not teach does not teach weighted downlink signals.

Mohebbi teaches weighted downlink signals (Column 6 lines 63 – 67, Column 7 lines 1 – 2, the ranking is the weighting).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the weighting method taught by Mohebbi in the system of Dabak in view of Legg for the purpose of reducing the backhaul load in the fixed network as taught by Mohebbi.

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond S. Dean whose telephone number is 571-272-7877. The examiner can normally be reached on 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A. Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

On July 15, 2005, the Central FAX Number will change to **571-273-8300**. This new Central FAX Number is the result of relocating the Central FAX server to the Office's Alexandria, Virginia campus. Most facsimile-transmitted patent application related correspondence is required to be sent to the Central FAX Number. To give customers time to adjust to the new Central FAX Number, faxes sent to the old number (703-872-9306) will be routed to the new number until September 15, 2005. After September 15, 2005, the old number will no longer be in service and **571-273-8300** will be the only facsimile number recognized for "centralized delivery".

**CENTRALIZED DELIVERY POLICY:** For patent related correspondence, hand carry deliveries must be made to the Customer Service Window (now located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314), and facsimile transmissions must be sent to the Central FAX number, unless an exception applies. For example, if the examiner has rejected claims in a regular U.S. patent application, and the reply to the examiner's Office action is desired to be transmitted by facsimile rather than mailed, the reply must be sent to the Central FAX Number.

Application/Control Number: 10/020,130  
Art Unit: 2684

Page 12



Raymond S. Dean  
July 13, 2005



**NAY MAUNG**  
**SUPERVISORY PATENT EXAMINER**